

CR-196605

**AUTOMATED PROCUREMENT SYSTEM (APS)
REVISED
PROJECT MANAGEMENT PLAN (DS-03)**

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For:

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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.2 PURPOSE.....	1
1.3 SCOPE.....	1
 2.0 SYSTEM OVERVIEW	 2
2.1 BACKGROUND	2
2.2 OVERVIEW OF REQUIREMENTS	3
2.2.1 Requisitioning.....	3
2.2.2 Routing for Review/Approval.....	3
2.2.3 Fund Certification	4
2.2.4 Buying Activity	4
2.2.5 Recording of Obligation	4
2.2.6 Receiving Activity.....	4
2.2.7 Recording Cost.....	4
2.2.8 Recording Disbursement	4
2.2.9 Final Close-Out.....	5
2.2.10 Reporting.....	5
2.3 SCOPE OF SYSTEM	5
2.3.1 Requisitioning.....	5
2.3.2 Cataloging	6
2.3.3 Buying.....	6
2.3.4 Receiving.....	7
2.3.5 Cost Disbursements	7
2.3.6 Contract Administration.....	7
2.4 HIGH LEVEL TECHNICAL AND PERFORMANCE REQUIREMENTS	8
2.4.1 Technical Requirements.....	8
2.4.2 Performance Requirements	8
 3.0 SYSTEM DEVELOPMENT APPROACH	 8
3.1 DEVELOPMENT OVERVIEW	8
3.2 DEVELOPMENT METHODOLOGY	9
3.3 DEVELOPMENT APPROACH	10
 4.0 ORGANIZATION	 10
4.1 ORGANIZATION PLAN	10
4.2 RESPONSIBILITIES	12
4.3 CONTRACTUAL RELATIONSHIPS.....	13
 5.0 PROJECT DETAILS	 14
5.1 SCHEDULE.....	14
5.2 PLANNING PHASE	14

TABLE OF CONTENTS (contd.)

		<u>Page</u>
5.3	INTERFACE DEFINITION PHASE	15
5.4	DEMONSTRATION PHASE	15
5.5	CONFIGURATION MANAGEMENT PLAN PHASE	16
5.6	ACCEPTANCE TEST PLAN PHASE	16
5.7	VALIDATION PHASE	16
5.8	PROTOTYPE PHASE	17
5.9	CUSTOMIZATION PHASE	18
5.10	ENHANCEMENT PHASE	18
5.11	INTERFACE IMPLEMENTATION PHASE	18
5.12	DATA CONVERSION PHASE	19
5.13	DOCUMENTATION PHASE	19
5.14	SYSTEMS TESTING PHASE	19
5.15	IMPLEMENTATION PHASE	20
5.16	TRAINING PHASE	20
5.17	MAINTENANCE PHASE	20
6.0	PROJECT RISKS	20
6.1	GENERAL	20
6.2	REMOTE CONTRACTOR	21
7.0	TEST AND ACCEPTANCE	22
7.1	UNIT TEST	22
7.2	INTEGRATION TEST	22
7.3	GOVERNMENT TEST	22

APPENDIX A DOCUMENTATION RECEIVED FROM NASA
APPENDIX B PROJECT SCHEDULE

1.0 INTRODUCTION

The National Aeronautics and Space Administration (NASA) Marshall Space Flight Center (MSFC) is implementing an Automated Procurement System (APS) to streamline its business activities that are used to procure goods and services.

The implementation is being performed in compliance with MSFC Manual, MM 2410.13, "MSFC General-Purpose Software Development and Management Requirements Manual."

As part of this development, a contract was awarded to the Procurement Automation Institute (PAI), on August 1, 1994. The contract number is NAS8-39897. The contracting officer is Jane Maples. The contract calls for a commercial off-the-shelf (CTOS) system, customized to MSFC's requirements, and integrated with MSFC administrative applications.

This Project Management Plan (PMP) is the governing document throughout the implementation process and is identified as the APS Project Management Plan (DS-03). The project plan includes the schedules and tasks necessary to proceed through implementation. Since the basis of APS is an existing COTS system, the implementation process is revised from the standard systems development life cycle.

The requirements validation phase has resulted in extensive and significant changes to the design of APS. This Version (2.0) reflects the project plan after completion of the requirements validation.

1.2 PURPOSE

The purpose of the PMP is to provide the framework for the implementation process. It discusses the roles and responsibilities of the NASA project staff, the functions to be performed by the APS Development Contractor (PAI), and the support required of the MSFC Computer Support Contractor (CSC). To be successful, these three organizations must work together as a team, working towards the goals established in this Project Plan.

The Project Plan includes a description of the proposed system, describes the work to be done, establishes a schedule of deliverables, and discusses the major standards and procedures to be followed.

1.3 SCOPE

The APS system has been classified by MSFC as a Software Development Category C: medium-scale support application, average development effort, non-complex hardware and software environment, conducted within a self-

contained organization, does not involve complicated interactions with other projects, and is not on the critical path for any other development effort.

As a result, production of the following documents are considered mandatory:

DS-03	Project Management Plan
DS-04	Requirement Specification ¹

Production of the following documents, however, have also been included in the Project Plan, since these documents are considered important to the effective management of the project:

DS-05	Configuration Management Plan
DS-08	Design Specification
DS-09	Test Plan and Procedures
DS-11	Training Plan and Procedures
DS-12	System Implementation Plan

In addition, the following reviews are considered mandatory under the directive:

SRR System Requirement Review
CDR Critical Design Review
ORR Operations Readiness Review

In addition, a Test Readiness Review (TRR) is included for effective management of the project.

2.0 SYSTEM OVERVIEW

2.1 BACKGROUND

Improving the way the Government does business is imperative in today's world of declining budgets. Currently, MSFC has several automated systems, which are somewhat integrated, and perform various business functions. MSFC is implementing, through APS, a system that performs the "cradle-to-grave" procurement of goods and services and integrates it with existing systems, thereby making an end-to-end system. The proposed system also implements electronic

¹A predecessor project resulted in the development of a preliminary requirements specifications, and is used as the starting point for this project. The reports from the predecessor project are entitled: APRS Phase II - Requirements Specifications: Document Specification - 04 (DS-04), June 1993, and Automated Bulletin Board Service Requirements Specification (DS-04), May 1993.

commerce, a major initiative of the Federal Government as a whole. MSFC's goal is to have a complete functioning system through a combination of modification, integration, and new development in minimum time.

Users of the APS system will use a variety of hardware and software platforms including PC networks using MS Windows and Macintosh workstations connected to various local area networks throughout the site. The system will be used by both MSFC staff and by its various support contractors. The system must operate effectively in this multi-platform environment. APS must also interface within the center's legacy administrative systems (accounting, supply management, equipment management, etc.).

These legacy systems are resident on IBM 3090 hardware and are written in ADABAS Natural. Other database systems are utilized throughout the Center for various administrative systems. These are predominately written in Oracle. The standards used for wordprocessing, spreadsheet, database, and electronic mail as used in the Center are as follows:

WordProcessing	Microsoft Word
Spreadsheet	Microsoft Excel
Database	Oracle compliant, SQL compliant, Natural compliant
Electronic Mail	Lotus ccMail

The APS system must operate within this environment, interfacing with legacy systems and applications developed in the above environments.

2.2 OVERVIEW OF REQUIREMENTS

The APS system is a cradle-to-grave procurement system containing the following components:

2.2.1 Requisitioning

Requisitioning includes the capability to initiate requests for supplies, equipment, services, studies and grants throughout MSFC. The ability to include any attachments necessary to the procurement document (such as specifications or justifications) created in wordprocessing software compatible with existing Center standards is also required. Non-automated attachments must also be handled.

2.2.2 Routing for Review/Approval

Routing for review/approval includes a capability to electronically route requests for review and approval to any system user. Routing is accomplished by integrating the APS with the Center's existing electronic mail system. Interface with applicable existing MSFC systems must also be allowed to determine availability of

goods from MSFC stock, other government stock (using Fedstrip, Milstrip purchase), or excess government supplies or equipment.

2.2.3 Fund Certification

Fund certification includes the capability to interface APS with MSFC's existing accounting system on a realtime basis to validate accounting codes and to verify and record the availability of funds.

2.2.4 Buying Activity

Buying activity functions include capabilities to process an approved procurement request from receipt to award of a purchase order, contract, cooperative agreement, or grant. This allows APS to pass data to and receive data from the applicable existing MSFC systems. Access is also required to FACNET to meet the requirements for public dissemination of opportunities using electronic commerce. ANSI ASC X12 standards must be used for electronic commerce applications, where available.

2.2.5 Recording of Obligation

Recording of obligation includes the interface to record obligations in the MSFC accounting system subsequent to award by the buying activity.

2.2.6 Receiving Activity

Receiving activity functions includes the interface necessary to accommodate recording of receipt of supplies or equipment and sharing data with existing systems (i.e., NASA Supply Management System (NSMS), and MARTS).

2.2.7 Recording Cost

Recording includes an interface to record cost in the accounting system upon receipt of goods or services. This data will have been gathered in the receiving process and will need to be passed to the MSFC accounting system (MARTS).

2.2.8 Recording Disbursement

Recording disbursement includes an interface to obtain information on disbursements made by the MSFC accounting system. All disbursement activity is handled within the accounting system, so data will be passed from MARTS to APS for use in maintaining the status of the procurement.

2.2.9 Final Close-Out

Final close-out includes tracking the status of a procurement request from initiation through final close-out.

2.2.10 Reporting

Reporting includes capabilities to issue reports from data gathered in any and all of the preceding processes. This will include, but not be limited, to reports of: status, initiations by organization, initiations by document reference number, and initiations by various elements of the accounting code. The creation of ad-hoc reports by the user in a powerful, easy to use manner is also an important element of the system.

2.3 SCOPE OF SYSTEM

The system is designed to support the procurement process from beginning to end.

2.3.1 Requisitioning

Requisitions are initiated by any organization within MSFC and by its support contractor and are routed through a review and approval process which varies by funding organization, dollar threshold, commodity, etc. The overall standard for this approval process is set forth in MMI 5101.5G, Approval and Routing of Procurement Requests.

The system must support the initial preparation of the procurement process, including routing and approval. The system must also include funds certification through a real-time interface to MARTS.

The users of the requisitioning component may be any organization throughout MSFC, who may access the system through PC or Macintosh workstations.

Routing will be achieved through ccMail and the APS system will pass messages to and from the electronic mail system.

Electronic signatures will be used to signify approval, and must be handled in a secure manner, consistent with NASA data security policies.

A central database must be maintained describing the status of each requisition throughout its life: this includes during the approval process; during the buying process; and during the receiving process. Ad-hoc query and retrieval capabilities on this database should be available throughout the center.

It is anticipated that some 11,000 requisitions will be handled annually.

2.3.2 Cataloging

The first stop for an approved requisition in the procurement cycle for goods outside the requisitioning office, is the cataloging function within the Property Management Office (PMD). Here, required sources of supply are checked to determine whether one of these sources can be used to meet the need.

An interface is required with NSMS to check the availability of any item from stock. If it is determined that the item can be acquired using MILSTRIP/FEDSTRIP procedures from an established Government source (e.g., GSA), then an interface with NSMS is required to place the order by this route.

Status throughout the cataloguing process must be updated in the requisition tracking database.

Requisitions may be split during the requisitioning process and each new requisition related automatically back to the originating source.

2.3.3 Buying

If purchase is required from a commercial firm than the procurement request will be automatically sent to the Procurement Office. Here, the procurement request will initiate a procurement action and may be processed using:

- Small purchase procedures;
- Government ordering procedures;
- MidRange procurement procedures;
- Large contracts procedures including contracts and cooperative agreements with for-profit organizations; and
- Grants procedures and procedures for cooperative agreements with non-profit organizations.

A single requisition may result in one procurement action, may be consolidated with others into a single procurement action, or may be split into various procurement actions. The system must keep track of each requisition throughout the buying process and pass status information back to the requisition tracking database.

APS will track the procurement request from receipt in the Procurement Office through award. Milestones will be established, in compliance

with NASA-standards (for update in AMS) and to meet local MSFC requirements. Standard documents will be generated as required by the procurement process being used, including forms, solicitations, contracts, grants, etc. A list of the NASA and MSFC specific forms to be produced by APS is given in Appendix A.

Relevant procurement information will be updated in PROMIS, which will continue to be the historical archive for reporting purposes.

If electronic commerce is selected for the procurement action, ANSI ASC X12 ECAT-compliant transactions will be generated and transmitted, when available. Other forms of electronic transmission will be used where X12 EDI standards do not exist, e.g., for large or MidRange contracts. If the procurement is subject to open competition, the solicitation document will be posted to FACNET where it can be accessed by vendors. Bids will be accepted electronically and orders placed electronically. All implementations of electronic commerce will be in full compliance with the Federal Government ECAT requirements.

For those procurement actions which require a synopsis to be published in the CBD, the system will generate the notice and place it in a centralized location for further processing by MSFC.

A similar process will be used to provide solicitation and award information for posting on Internet.

At the time of award, an obligation will require to be recorded through an interface with the MSFC accounting system (MARTS).

FPDS reporting information will be transferred to NASA HQ through an interface with AMS.

2.3.4 Receiving

The system provides for an interface with NSMS to handle the receiving of goods and the reporting of receipt to the supply system. An interface to MARTS is also required to show the recording of costs. An interface to NEMS is required for all items that requiring tagging.

2.3.5 Cost Disbursements

A further interface is required from MARTS to APS to show payments that are made to vendors, including final payment.

2.3.6 Contract and Grant Administration

In addition to receiving and payment, the APS system will facilitate the many other processes associated with contract and grant administration including

contract closeout. Such functions include generation of COTR appointment letters, generation and issuance of modifications, renewing options, handling terminations, and closing out contracts. The system will generate MSFC specific forms and documents, as required, and manage information on the current status of individual contracts.

2.4 HIGH LEVEL TECHNICAL AND PERFORMANCE REQUIREMENTS

2.4.1 Technical Requirements

High level technical requirements include:

- Be compatible with hardware, software and database environments at MSFC, including PC and Macintosh workstations; and
- Maximize the utilization of current ADP technology, taking advantage of third-party products whenever practical.

2.4.2 Performance Requirements

High-level performance requirements include:

- Automate the process not the form;
- User-friendly interaction; and
- Traceability to the requirements established in the definition phase of the systems development life cycle.

3.0 SYSTEM DEVELOPMENT APPROACH

3.1 DEVELOPMENT OVERVIEW

The development of APS will be conducted in the following phases:

- Planning;
- Interface Definition;
- Demonstration;
- Configuration Management;
- Acceptance and Testing;

- Validation;
- Prototype;
- Customization;
- Enhancement:
- Interface;
- Data Conversion;
- Documentation;
- System Testing;
- Implementation;
- Training; and
- Maintenance.

These phases are different from the standard NASA system development life cycle processes because of the acquisition of a COTS system as the starting point for the development of APS.

3.2 DEVELOPMENT METHODOLOGY

Since the time that the requirements analysis was prepared and the lengthy projected implementation, approximately two years, an extensive requirements validation is essential. In this two year period, there have been several changes in the procurement process (e.g., the introduction of MidRange procedures) and these are obviously not covered in the original requirements analysis.

The extent of this revalidation was not anticipated in the initial project plan, but has been added in Version 2.0.

The APS will be developed using a modified version of the AIM Standards and Rapid Application Development (RAD) Methodology. End user participation will be encouraged to the maximum extent possible given the short timeframe for implementation. End users are identified as those who perform the daily business activities to be incorporated into the APS, i.e., initiators, approvers, buyers, catalogers, warehouse users, contract specialists, etc. They are represented on the APS Team.

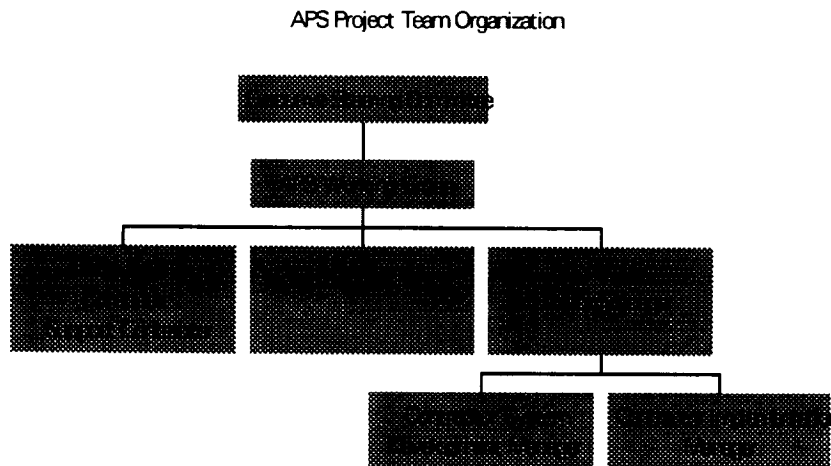
3.3 DEVELOPMENT APPROACH

The development and implementation approach will be defined by the project schedule which identifies the tasks to be completed. The project schedule, Appendix B, will serve as the baseline and may change as the project develops. The schedule has been developed using MS-Project which will be used to update and maintain the schedule on a monthly basis. Upon completion of testing and acceptance by MSFC, the system will be implemented for production.

4.0 ORGANIZATION

4.1 ORGANIZATION PLAN

The project management structure is identified in the following chart:



Executive Steering Committee

Representatives on the Executive Steering Committee include:

- Chairman - Center Comptroller
- Director - FMO
- Assistant Director Mgt. - S&E
- Director - MOO
- Director - Procurement
- Deputy Director - ISSO

Working Group

Members of the Working Group as of April 28, 1995 are:

Gerald Cucarola, FMO
William Vaughn, FMO
John Puett, MOO
Regina Pettis, S&E
Jonathan Pettus, ISSO
Byron Butler, Procurement

Additional functional/technical experts on the working group are:

Neil Rodgers, ISSO
Jim Bradford, Procurement
Lydia Butler, Procurement

APS Team

The APS team as of April 28, 1995 includes the following:

Pat Waye, MOO
Peggy Dunnigan, MOO
Mark McCutcheon, MOO
Tina Potts, MOO
Annie Lankford, MOO
Sandra Marshall, MOO

R.egina Pettis, S&E
Brenda Poe, S&E
Patricia Johnson, S&E
Jeffrey Hamilton, S&E

Jonathan Pettus, ISSO
Katie Mann, ISSO
Elizabeth Woeber, ISSO

Gerald Cucarola, Comptroller
Kathy Shockley, Comptroller
William Vaughn, Comptroller
Glenn Alexander, Comptroller
Kenneth King, Comptroller

Sue Depew, Procurement
Jane Maples, Procurement

Richard Robbins, Procurement
Earl Pendley, Procurement
Jim Bradford, Procurement
Steve Morris, Procurement
Lydia Butler, Procurement
Mellina Hudgins, Procurement
Marena McClure, Procurement
Joyce Mallory, Procurement
Lisa Prince, Procurement
Sandy Presnell, Procurement
Rick Glover, Procurement

Dwight Clark, DIS
Kate Redmon, DIS

Procurement Representative GP15

Lydia Butler

Contractor Project Manager

Dr. Diane Murphy, President, PAI

Contractor System Development Manager

David Marrow, Director System Development, PAI

Implementation Manager

Valeri McGuire, PAI

NASA/MSEC Computer Support Contractor

Todd Lucas, Computer Sciences Corporation

4.2 RESPONSIBILITIES

Overall responsibilities for each of the organizational units involved in the project include:

- The Executive Steering Committee will provide overall vision and resources during the life cycle of the project.
- The APS Working Group will provide dedicated personnel necessary to validate the system requirements set forth in the contract specifications. The Group will provide oversight for the

development team, ensure that the requirements are satisfied, conduct periodic reviews to ensure compliance with the software development schedule, and provide timely briefings to the Executive Steering Committee.

- The APS Team will provide detailed requirements necessary for software development and provide end-user advocacy for APS.
- The Contractor Project Manager is responsible for all interfaces between the contractor and NASA MSFC and will ensure the timely delivery of quality products, within budget.
- The Contractor Software Development Manager is responsible for the implementation of high quality software which performs effectively within the NASA information systems environment.
- The Implementation Manager is responsible for the timely delivery of all software, its implementation at the MSFC site and the development of interfaces between APS and the MSFC Legacy ADABAS Natural applications.
- The MSFC Computer Support Contractor is responsible for supporting the APS development program and ensuring its integration with other center system development efforts.

4.3 CONTRACTUAL RELATIONSHIPS

While it is important to the success of this project, that the organization work as a team, the contractual relationship between MSFC and PAI must always be respected.

The MSFC contractual responsibilities, as of April 28, 1994 are as follows:

- Contracting Officer, Jane Maples;
- COTR, William Vaughn; and
- Alternate COTR, Jonathon Pettus.

PAI's Project Manager, Dr. Murphy is responsible for all contractual activities, including those of its subcontractor, Software AG.

5.0 PROJECT DETAILS

5.1 SCHEDULE

The project schedule will be reviewed and updated as needed throughout the development life cycle, particularly prior to each formal review, using MS-Project. The current version of the project schedule GANTT chart is included as Appendix B of this document. The following paragraphs describes the tasks to be accomplished with critical review points.

5.2 PLANNING PHASE

The first phase of the project is the planning phase, which culminates in the review and approval of this project plan.

The planning phase began with award of the contract to PAI on August 1, 1994. The contract calls for delivery of the APS software eight months after award, and training by nine months after award. The completion date for implementation and training was scheduled to be on April 30, 1995.

Because of the additional time required for requirements validation, a 4-month extension to the delivery schedule was authorized by modification to the contract. This requires implementation of the system by July, 1995 and training by August 30, 1995.

Other milestones and deliverables Identified in the contract's statement of work include:

- Project plan;
- Acceptance test plan;
- Software;
- User and training manuals and publications;
- Support documentation; and
- Object and source codes.

This plan incorporates production of all of these items.

A kick-off meeting was held at MSFC on August 11/12, 1994 and the planning process was initiated.

An initial data collection task began with a view to collecting data to be used as the baseline information. Sources of information were identified, and a data collection methodology established to collect the required data.

A date of August 26, 1994 was established as the date for collection of initial data. However, data collection continued through April 26, 1995. The information collected as of this date is shown in Appendix A. Additional data will be added as it is obtained, and a list of missing data will be given in the monthly project status report.

The second task was to develop the Project Plan. This plan takes into account the work already done on APRS Phase II, the technology concerns about the proposed solutions, and the existing functionality of the COTS software. An initial project plan was prepared in September, 1994. After the extent of the revalidation was identified, a second project plan was prepared on May 3, 1995.

This revised project plan is subject to review and approval by MSFC by May 15, 1995.

5.3 INTERFACE DEFINITION PHASE

An essential part of the design process is the definition of the various interfaces which are required to integrate APS with existing MSFC legacy business systems.

The major interface requirements identified are with:

- MARTS;
- NSMS (supply management);
- NEMS (equipment management); and
- MICS (CSC procurement).

These interfaces are dependent on the full definition of the system requirements, and as such will be included in the revised "Design Documentation."

While PAI, as the APS contractor, is required to implement the interface from the APS perspective, CSC is responsible for the development of the interfaces from the legacy systems perspective. Cooperation between the two organizations is essential in the interface development and implementation process.

5.4 DEMONSTRATION PHASE

The purpose of the demonstration phase is to confirm PAI's ability to make its COTS products, PAI*IREQ and PAI*IPRO, work within the MSFC environment, including the seamless interface with the mainframe-based legacy systems.

The demonstration was divided into two phases, because of the lack of the early availability of a Macintosh forms management package.

A successful demonstration of the PC/Windows solution was made in December 1994. A demonstration of the Macintosh solution is scheduled for early June, 1995.

5.5 CONFIGURATION MANAGEMENT PLAN PHASE

MSFC developed the initial Configuration Management Plan (DS-05) December 4, 1994.

The plan will be updated by PAI on June 30, 1995.

5.6 ACCEPTANCE TEST PLAN PHASE

The Acceptance Test Plan (DS-09) is closely related to the Design Document (DS-08). An initial version was delivered to MSFC on December 5, 1994. A revised plan will be delivered with the revised Design Document on May 15, 1995.

5.7 VALIDATION PHASE

The purpose of the validation phase is to test the technological basis of the proposed solution, to validate and update the requirements specifications, and to analyze and review the COTS solution to identify those features which need to be modified, developed, or are the subject of an interface development. This validation phase, covered in Task 1 and Task 2 of the contract's statement of work, resulted in a design review on December 6, 1994. This design review coincides with the contract's decision point, and further work could not continue until the design was approved in writing by the MSFC COTR.

The first task in the validation phase is for PAI to research and develop a proof of concept demonstration that meets the following critical elements:

- Presentation of functional understanding of each interface requirement including files, data elements, and edits required to be updated;
- Demonstration of updating a procurement request from within PAI's application by making a call to a MARTS test database (i.e., specific repeating field) from both a PC and Macintosh;
- Presentation of PAI's plan on how the application meets the performance requirements, including an updated Acceptance Test Plan; and

- Identification of the location (i.e., server, workstation) of each component or piece of the APS within the MSFC architecture.

The results of this task (a presentation and demonstration) was presented to MSFC as a proof of concept review on December 5-6, 1994. The presentation included flowcharts showing files and data element relationships between APS and the other MSFC administrative systems. A demonstration was conducted on the PC showing the required interfaces.

At the same time, PAI continued to analyze the requirements as specified in the APRS and APBBS DS-04 documents (see Appendix A) and to update these specifications to the current environment (e.g., ECAT compliance). PAI documented which requirements were met by the COTS software and which require customization enhancement, or interface development. This process was performed by a combination of interviews with MSFC personnel, review of existing requirements document, knowledge of the procurement process, and experience with the functions and capabilities of the COTS solution. The result of this was the development of an updated Requirements Specification (DS-04) and its presentation to MSFC on December 5, 1994. MSFC was given a two-week period to review and approve the Requirements Specification. This was to conclude work on Task 1 of the SOW.

The next task was to analyze and document the implementation approach and provide a design document describing the technical architecture of the solution across the MSFC multi-platform environment. The Design Document (DS-08) was delivered on December 5, 1994 and subject to a detailed design review. This was to conclude work on Task 2 of the SOW.

Work on the requirements definition phase was extended because of the changing nature of the MSFC environment and the identification of new or changed requirements. The initial DS-08 was delivered and presented on December 5, 1994 and at this time, it was identified that there were several omissions in the original DS-04 document and that additional data collection, design and analysis were required.

A series of meetings and discussions were held between PAI and the various MSFC organizational units involved in APS resulting in a revised DS-08 being scheduled for delivery on May 15, 1995. This will be subject to review and approval by MSFC by May 30, 1995.

5.8 PROTOTYPE PHASE

The prototype phase is designed to allow MSFC to experiment with the system and to interact directly with the PAI development staff as the customization and enhancement processes are completed.

A prototype system (PC-Windows only) will be installed every two (2) weeks from May 15 through June 30, 1995. MSFC will test and evaluate the system, and provide feedback to PAI. PAI will analyze the lessons learned from the prototype and ensure that all changes are made in the final system.

5.9 CUSTOMIZATION PHASE

While PAI recognizes that it must receive approval of Task 1 and Task 2, before proceeding with Task 3, it also recognizes that to meet the short development cycle, time is of the essence. As such, our Project Plan requires PAI to begin work, at our own risk, on Task 3 prior to formal acceptance of Task 1 and Task 2.

Much of the work to meet the requirements of MSFC will be achieved through database customization, i.e., using the PAI*IPRO core software with a database designed specifically to meet NASA MSFC requirements.

The customization phase begins with data element definition, the structuring of the requirements into procurement actions, milestones, triggers, etc. Subsequent tasks include the development of all pre-printed forms and the development of all documents (solicitation, contracts, grants, etc.).

These tasks will be completed by May 30, 1995 and will be subject to a review by NASA for a 30-day period using the prototype systems developed in the previous tasks. Once reviewed and accepted, these will become the system baseline. PAI will develop and deliver an updated Configuration Management Plan on June 30, 1995 to document the procedures for handling updates to this baseline system.

5.10 ENHANCEMENT PHASE

During the enhancement phase, any software changes (modifications or additions) which were identified during the validation phase, excluding ADABAS interfaces, will be developed and tested.

The development and unit testing will be performed at PAI's Software Development Laboratory and will be fully tested in PC-Windows and Macintosh. Unit testing will be completed by June 30, 1995.

5.11 INTERFACE IMPLEMENTATION PHASE

During the interface phase, all interfaces with ADABAS Natural mainframe legacy systems will be developed and tested. Interfaces with the following systems will be included:

- MARTS;

- NSMS;
- NEMS;
- PROMIS;
- AMS; and
- MICS.

Testing will occur, to the maximum extent possible using Software AG computer resources. NASA will provide test systems for each of these applications for use in this interface development process. All interfaces will be completed and unit tested by August 31, 1995 subject to availability of software on the mainframe.

5.12 DATA CONVERSION PHASE

The purpose of the data conversion phase is to provide the capability, at the time of implementation, to migrate data from the existing APRS to APS, thereby, providing "one-source" for procurement request information. The contract does not call for PAI to perform the actual conversions. Beginning in June 1, 1995, PAI will define the conversion requirements, develop appropriate conversion programs, and test the conversion programs using test data provided by MSFC. These test data will then be available for use in the final system test.

5.13 DOCUMENTATION PHASE

The first task, and most important task, in the documentation phase is the development of the on-line HELP features of the system. These will be developed concurrently with the customization and enhancement phases and are scheduled for completion by August 31, 1995.

Other documentation to be developed and delivered with the system on August 31, 1995 include:

- User Documentation;
- Technical Specifications;
- Training Manuals; and
- System Documentation.

5.14 SYSTEMS TESTING PHASE

After MSFC acceptance of the Design Specifications, PAI will develop a detailed final test and acceptance plan (DS-09). This plan will be submitted by June 15, 1995 and will define all acceptance requirements and criteria to determine the acceptability of APS. This plan will outline a series of tests to be performed to verify that APS meets functional, technical, and performance requirements as

specified in the design document approved after Tasks 1 and 2. The Test and Acceptance Plan should be reviewed by MSFC on or before July 16, 1995.

Integration testing will be performed on each of the platforms (PC-Windows and Macintosh), and a full multi-platform test will be conducted. A Test Readiness Review will be conducted at the end of July, 1995.

5.15 IMPLEMENTATION PHASE

During the implementation phase, the system will be fully implemented in the MSFC environment. A System Implementation Plan (DS-12) will be developed by June 28, 1995. Production software will be installed in the period July 10, 1995 through July 25, 1995.

5.16 TRAINING PHASE

The contract's Task 4 is the on-site training of the Center's representatives in the use of APS. The contract requires a minimum of 25 and a maximum of 50 MSFC employees to be trained. The employees will include system users, system administrators, database administrators, and training personnel to subsequently train and support other MSFC personnel.

Understanding the true training needs should be left to a later point in the project. As a result, PAI proposes that a Training Plan be developed during June, 1995. The Training Plan will be delivered to MSFC on July 3, 1995 with a view to the actual training sessions being conducted in the last two weeks of August, 1995.

5.17 MAINTENANCE PHASE

At the option of the Government, maintenance will begin on October 1, 1995 and end on September 30, 1999. (Task 5 of the contract).

6.0 PROJECT RISKS

6.1 GENERAL

It is important to minimize risks to avoid business, technical, performance and schedule issues.

Business risks include:

- Adherence to MSFC's standards/policies for operating business;
- Understanding of the NEMS, NSMS, MARTS, and AMS interface requirements; and

- Changing of requirements after requirements have been defined.

Technical risks include:

- Implementation of solution which allows the system to be upgraded with changes in technology;
- Government-wide initiatives (e.g., Electronic Commerce);
- Availability and capacity of equipment to support APS; and
- Additional system risks identified as the project life cycle evolves.

Schedule risks include:

- Availability of software on multiple platforms; and
- Availability of interfaces.

PAI will take all precautions to minimize risks.

These steps include:

- Ensuring that the requirements are fully understood and validated by MSFC before implementation begins;
- Ensuring that all technical components of the system, including third-party packages are fully tested prior to implementation of the COTS solution;
- Ensuring that PAI staff are fully conversant with the overall Government electronic commerce initiatives;
- Maintenance of full and complete documentation on the project, including the monthly status report; and
- An honest approach to the technical issues which are an essential part of the solution.

6.2 REMOTE CONTRACTOR

PAI and its subcontractor are both located remotely to MSFC.

Regular visits by PAI are required to ensure the MSFC environment is fully reflected in the delivered product.

7.0 TEST AND ACCEPTANCE

7.1 UNIT TEST

Unit testing will be performed by PAI during all parts of the project. Each lowest level software component will be tested by the software developers to ensure the detail requirements have been satisfied.

7.2 INTEGRATION TEST

Integration test will be performed by PAI at the end of the development phase. Components will be logically, then functionally grouped for integration testing. The test results will be traceable to the requirements established in the definition phase of the project life cycle. This test will be a coordinated effort with agency-wide and MSFC applications.

7.3 GOVERNMENT TEST

This test will be formally performed by the Government end-user. The system's operational capabilities and requirements will be validated and formally accepted. The acceptance concept should cover:

- Assurance that all organizations requirements have been met;
- Compatibility with operational environment;
- Demonstration of all user screens;
- Demonstration ergonomic compatibility;
- Verify security provisions, operational procedures, performance; and
- Demonstration of support ability provisions.

APPENDIX A
DOCUMENTATION RECEIVED FROM NASA

APPENDIX A DOCUMENTATION RECEIVED FROM NASA

1. Standards and Requirements Documents

- 1.1 MMI 5101.5G, Approval and Routing of Procurement Requests
- 1.2 MMI 2410.13, MSFC General-Purpose Software Development and Management Requirements Manual
- 1.3 APRS Phase II - Requirements Specifications: Document Specification-04 (DS-04), June 1993
- 1.4 Automated Bulletin Board Service Requirements Specification (DS-04), May 1993

2. Procurement Office Organizational Issuances

- 2.1 1400, Administrative Management Programs
 - 2.1.1 GP 1410.01B, Procurement Office Organizational Issuances (03/06/87)
- 2.2 2400, Automatic Data Processing (ADP)
 - 2.2.1 GP 2410.03E, Procurement Management Information System, (PROMIS), (12/09/93)
- 2.3 5100, Procurement
 - 2.3.1 GP 5101.011, Procurement Review, (03/04/94)
 - 2.3.2 GP 5101.07G, Small Business, Small Disadvantaged Business, Women-Owned Business, and Labor Surplus Area Programs, (08/29/88)
 - 2.3.3 GP 5101.10H, Records of Negotiation (02/12/93)
 - 2.3.4 GP 5101.16P, Contracting Officer's Approval and Signature Authorities, (06/01/94)
 - 2.3.5 GP 5101.17D, Precontract Costs (03/06/92)
 - 2.3.6 GP 5101.23, MSFC Generated Solicitation/Contract Clauses, Provisions and Forms (07/19/88)
 - 2.3.7 GP 5103.05I, Cost/Price Negotiation Policies and Technique, (11/08/93)
 - 2.3.8 GP 5113.01B, MidRange Pilot Test Program, (01/25/95)

2.3.9 GP 5150.10D, Utilization of Vendor Source System, (08/19/94)

2.3.10 GP 5151.05N, Delegations - Contract Administration and Field Support Services, (06/09/93)

2.3.11 GP 5151.14H, Closing Physically Completed Contracts and Grants, (10/03/94)

2.4 Financial Management

2.4.1 GP 9090, Collections, (05/04/88)

3. Procurement Reminders

3.1 86-1, Screening of Purchase Requests for Security Requirements, (01/16-86)

3.2 86-3, Standard RFP Packages (Mandatory Use), (02/18/86)

3.3 86-4A, Procedural Changes Related to FACS System Reporting, (02/09/87)

3.4 86-5G, Processing of Justifications for other than Full and Open Competition (JOFOCs), (09/06/94)

3.5 86-6A, Routing of Preaward and Award Documents within MSFC, (03/23/95)

3.6 87-3C, Master Buy Plan Submission, (03/23/92)

3.7 87-6A, Material Inspection and Receiving Report, DD Form 250, (03/25/92)

3.8 87-7, Consent to Subcontracts, (02/26/87)

3.9 87-9, Posting RFP's, RFQ's, and IFB's (02/26/87)

3.10 87-12E, Contracting Officer Technical Representative (COTR) Delegations, (03/23/95)

3.11 87-14B, Analysis and Documentation of Bid/Proposal Response, (12/31/91)

3.12 88-5, Equal Employment Opportunity Compliance Program, (09/08/88)

3.13 88-6, Inclusion of Mission Suitability Factor and Subfactor Weights in Solicitation Documents, (09/29/88)

3.14 89-2B, Preparation of Procurement Plans Requiring Approval at Installation Level (03/25/92)

- 3.15 89-5, Review of Source Evaluation Board/Source Evaluation Committee Documentation, (01/19/89)
- 3.16 89-6A, Furnishing Subcontractor Audit Reports to Prime Contractors, (09/27/93)
- 3.17 90-1, Use of Source Evaluation Committees for Evaluation of Certain Negotiated Competitive Proposals, (11/30/89)
- 3.18 90-4, Delegation of Approval of Wage Rates (07/23/90)
- 3.19 90-5, Consolidation of Source Evaluation and Performance Files with Physically Completed Official Contract Files Prior to Closeout
- 3.20 91-1A, Engineering Change Proposals, (11/19/93)
- 3.21 91-2, Interagency Procurements Under the Economy Act, Placed with Tennessee Valley Authority (TVA) Pursuant to the TVA Technology Brokering Program, (05/09/91)
- 3.22 91-3A, Proposal Preparation Instructions for Program Stretchouts and Program Realignments (09/20/93)
- 3.23 91-4, Notification of Local Office of Inspector General of Requests for Execution of Novation Agreements, (05/22/91)
- 3.24 91-5, NASA Research Announcements (NRA's)
- 3.25 92-3, Dispositioning of IPO Copy of SEMO Review Form 4184, (09/17/92)
- 3.26 92-4, Procurement Management Information System (PROMIS) Enhancement, (11/24/92)
- 3.27 93-1, Numbering of NASA Research Announcements (NRA's), (07/15/93)
- 3.28 93-2, Award Fee Findings and Determination, (08/04/93)
- 3.29 94-1, Contract Change Policy, (10/01/93)
- 3.30 94-3, Approval for Use of Cost-Plus-Award-Fee Contracts
- 3.31 94-4A, MidRange Procurement Procedures, (01/25/95)
- 3.32 94-5, Delegations of Authority, (02/10/94)
- 3.33 94-8A, Cancellation of Procurement Reminders 87-5 and 87-8, (11/04/94)
- 3.34 94-9, MidRange Procurement Procedures, (05/18/94)

- 3.35 94-10, Pen-and-Ink Changes to Procurement Office Organizational Issuances
- 3.36 95-1, Simplified Acquisition Interim Authorization, (03/27/95)
- 4. APRS
 - 4.1 Detailed Listing - Alphabetically All Data Element Entries - Entity Relationships
 - 4.2 User and Operations Guide
- 5. PROMIS
 - 5.1 PROMIS Documentation
 - 5.2 Design of the Procurement Management Information System (PROMIS) for shuttle
- 6. MARTS
 - 6.1 Automated Information Detailed System Description for Marshall Accounting Resource Tracking System, May 1989
 - 6.2 User and Operations Guides:
 - Labor Cost System
 - Manpower Manpower Information Systems (MMIS)
 - Authority Control Module (ACS)
 - Contracts Module
 - Disbursement Module
 - FEDSTRIP/MILSTRIP System (FEDMIL)
 - FMS Adjustments Module
 - FMS Distribution System (FMS)
 - Government Bill of Lading (GBL) Module
 - General Ledger Module
 - Industrial Property Module
 - Inventory Module
 - Letter of Credit Module
 - Edit Module
 - Tables System
 - Personal Property Module
 - Property Transfer Module
 - Real Property Module
 - Reimbursables Module
 - Returnable Containee Module
 - Transaction Accounting Module
 - Travel Module
 - 224 Module
 - 3935 Module
 - Cost System
 - Lapsing Appropriations Module
 - 6.3 MARTS-FMO Users Manual

7. NSMS

- 7.1 System/Software Detailed Design Specification May 1991
- 7.2 User and Operations Guide for the NASA Supply Management System, June 1994
- 7.3 Module Specifications: Maintain and Report Catalog Items

8. MSFC Forms

- 8.1 MSFC Form Letter 21, Contractor Equal Opportunity Compliance Determination
- 8.2 MSFC Form 35, Tally Control
- 8.3 MSFC Form 46, Inbound Discrepancy Report (IDR)
- 8.4 MSFC Form 47, Inspection Rejection Report
- 8.5 MSFC Form 55, Purchase Order
- 8.6 MSFC Form 55, Request for Issue, Procurement, Transfer or Turn-in
- 8.7 MSFC Form 55-1, Continuation Sheet for MSFC Form 55
- 8.8 MSFC Form 63, Purchase Request Summary
- 8.9 MSFC Form 67, Proposal Summary/Abstract of Bids
- 8.10 MSFC Form 404, Procurement Request
- 8.11 MSFC Form 424, Project/Institutional Requirements Sheet
- 8.12 MSFC Form 450, MSFC Small Business, Minority Business, and Labor Surplus Area Coordination Form and Memo for File
- 8.13 MSFC Form 523, NASA Defense Procurement Request
- 8.14 MSFC Form 578, Records Transfer List
- 8.15 MSFC Form 1007, Request for Fund Increases
- 8.16 MSFC 1048-1, Inspection and Acceptance Request
- 8.17 MSFC Form 1407, Concurrence Sheet
- 8.18 MSFC Form 1575, Certification of Performance for Payment of Bills
- 8.19 MSFC Form 1850-1, PROMIS Input Form

- 8.20 MSFC Form 2642, Sub-Contract Consent
- 8.21 MSFC Form 2656, Subcontract Review
- 8.22 MSFC Form 3075, Delivery Order, Proposal and Acceptance
- 8.23 MSFC Form 3143, Statement of Price or Cost Analysis
- 8.24 MSFC Form 3409, Request for Technical Evaluation
- 8.25 MSFC Form 3411-1, Managers Checklist
- 8.26 MSFC Form 3988, Order for Supplies or Services
- 8.27 MSFC Form 3988-1, Order for Supplies and Services (Continuation Sheet)
- 8.28 MSFC Form 4032, Request for Cost/Price Analysis
- 8.29 MSFC Form 4063, Route Sheet, Award Document
- 8.30 MSFC Form 4179, Contracting Officer Special Instruction Sheet (COSIS)
- 8.31 MSFC Form 4184, SEMO Review/Response Record
- 8.32 MSFC Form 4199, Property File Close-Out Request
- 8.33 MSFC Form 4235, Credit Card Purchase Record
- 8.34 MSFC Form 4235-1, Credit Card Purchase Log
- 8.35 MSFC Form 4236-1, Justification for Acceptance of an Unsolicited Proposal
- 8.36 MSFC Legal Review
- 8.37 FIRMR Applicability and Procurement Authority Certification
- 8.38 Federal Information Processing (FIP) Resources Decision Document (FRDD) for SEWP Acquisitions
- 8.39 NASA Research Grant
- 8.40 NASA Cooperative Agreement
- 8.41 Grant File Checklist
- 8.42 Budget Summary
- 8.43 Proposal Budget Evaluation

- 8.44 Cooperative Agreement
- 8.5 JOFOC Guide for Unsolicited Proposals
- 8.46 MSI Form 067-0, Purchase Order

9. SF Forms

- 9.1 SF18, Request for Quotation
- 9.2 SF24, Bid Bond
- 9.3 SF25, Performance Bond
- 9.4 SF25-A, Payment Bond
- 9.5 SF25-B, Continuation Sheet (SF24, 25 and 25A)
- 9.6 SF26, Award/Contract
- 9.7 SF28, Affidavit of Individual Surety
- 9.8 SF30, Amendment of Solicitation/Modification of Contract
- 9.9 SF33, Solicitation, Offer and Award
- 9.10 SF34, Annual Bid Bond
- 9.11 SF35, Annual Performance Bond
- 9.12 SF98, Notice of Intention to Make a Service Contract and Response to Notice
- 9.13 SF98a, Notice of Intention to Make a Service Contract and Response to Notice, Attachment A
- 9.14 SF119, Statement of Contingent or Other Fees
- 9.15 SF129, Solicitation Mailing List Application
- 9.16 SF252, Architect-Engineer Contract
- 9.17 SF254, Architect-Engineer and Related Services Questionnaire
- 9.18 SF255, Architect-Engineer and Related Services Questionnaire for Specific Project
- 9.19 SF294, Subcontracting Report for Individual contracts
- 9.20 SF295, Summary Subcontract Report
- 9.21 SF298, Report of Documentation Page

- 9.22 SF308, Request for Determination and Response to Request
- 9.23 SF1024, Public Voucher for Purchases and Services Other than Personal
- 9.24 SF1024A, Public Voucher for Purchases and Services Other than Personal
- 9.25 SF1055, Public Voucher for Purchases and Services Other than Personal, Continuation Sheet
- 9.26 SF1055A, Public Voucher for Purchases and Services Other than Personal, Memorandum, Continuation Sheet
- 9.27 SF1403, Preaward Survey of Prospective Contractor General
- 9.28 SF1404, Preaward Survey of Prospective Contractor Technical
- 9.29 SF1405, Preaward Survey of Prospective Contractor-Production
- 9.30 SF1406, Preaward Survey of Prospective Contractor-Quality Assurance
- 9.31 SF1407, Preaward Survey of Prospective Contractor-Financial Capability
- 9.32 SF1408, Preaward Survey of Prospective Contractor-Accounting System
- 9.33 SF1411, Contract Pricing Proposal Cover Sheet
- 9.34 SF1412, Claim for Exemption from Submission of Certified Cost and Pricing Data
- 9.35 SF1414, Consent of Surety
- 9.36 SF1415, Consent of Surety and Increase of Penalty
- 9.37 SF1416, Payment Bond for Other than Construction Contracts
- 9.38 SF1417, Pre-Solicitation Notice
- 9.39 SF1420, Performance Evaluation, Construction Contracts
- 9.40 SF1421, Performance Evaluation Architect-Engineer
- 9.41 SF1440, Application for Partial Payment
- 9.42 SF1442, Solicitation, Offer, and Award (Construction, Alteration, and Repair)

- 9.43 SF1443, Contractor's Request for Progress Payments
- 9.44 SF1444, Request for Authorization of Additional Classification and Rate
- 9.45 OF333, Procurement Integrity Certification for Procurement Officials
- 9.46 OF336, Continuation Sheet
- 9.47 OF347, Order for Supplies or Services
- 9.48 OF348, Order for Supplies or Services, Schedule-Construction
- 9.49 OF1419, Abstract of Offers - Construction
- 9.50 LLL, Disclosure of Lobbying

10. DOD Forms

- 10.1 DD250, Material Inspection and Receiving Report
- 10.2 DD254, Department of Defense, Contract Security Classification Specifications
- 10.3 DD441, Department of Defense Security Agreement
- 10.4 DD1342, DOD Property Record
- 10.5 DD1419, DOD Industrial Plant
- 10.6 DD1593, Contract Administration Completion Report
- 10.7 DD1861, Contract Facilities Capital Cost of Money

11. NASA Forms

- 11.1 NASA Form 456, Notice of Contract Costs Suspended and/or Disapproved
- 11.2 NASA Form 507, Individual Procurement Action Report (New Award)
- 11.3 NASA Form 507A, Individual Procurement Action Report (New Awards), Supplement A
- 11.4 NASA Form 507B, Individual Procurement Action Report Supplement B, (New Awards/Modifications)
- 11.5 NASA Form 507G, Individual Procurement Action Report (Grants/Orders)

- 11.6 NASA Form 507M, Individual Procurement Action Report (Modifications)
- 11.7 NASA Form 523, NASA-Defense Purchase Request
- 11.8 NASA Form 533M, Monthly Contractor Financial Management Report
- 11.9 NASA Form 533P, Monthly Contractor Financial Management Performance Analysis Report
- 11.10 NASA Form 533Q, Quarterly Contractor Financial Management Report
- 11.11 NASA Form 634, Structured approach, Profit/Fee Objective
- 11.12 NASA Form 666, New Technology Transmittal
- 11.13 NASA Form 667, Report on NASA Subcontracts
- 11.14 NASA Form 778, Contractor's Release
- 11.15 NASA Form 779, Assignee's Release
- 11.16 NASA Form 780, Contractor's Assignment of Refunds, Rebates, Credits, and Other Amounts
- 11.17 NASA Form 781, Assignee's Assignment of Refunds, Rebates, Credits, and Other Accounts
- 11.18 NASA Form 1011, Contractor Completion Statement
- 11.19 NASA Form 1018, Report of Government-Owned, Contracted-Held Property
- 11.20 NASA Form 1098, Checklist for Contract Award File Content
- 11.21 NASA Form 1120, Facsimile Transmission Cover Sheet
- 11.22 NASA Form 1356, C.A.S.E. Report on College and University Projects
- 11.23 NASA Form 1412, Termination Authority
- 11.24 NASA Form 1413, Termination Docket Checklist
- 11.25 NASA Form 1430, Letter of Contract Administration, Delegation, General
- 11.26 NASA Form 1430A, Letter of Contract Administration, Delegation, Special Instructions

- 11.27 NASA Form 1431, Letter of Acceptance of Contract Administration Delegation
- 11.28 NASA Form 1433, Letter of Audit Delegation
- 11.29 NASA Form 1434, Letter of Request for Pricing - Audit Technical Evaluation Services
- 11.30 NASA Form 1451, Request for Procurement Plan Approval
- 11.31 NASA Form 1452, Signature Page (Installation)
- 11.32 NASA Form 1630, Request for Access to Classified National Security Information
- 11.33 NASA Form 1634, Contracting Officer Technical Representative (COTR) Delegation
- 11.34 NASA Form 1647, Federal Information Processing (FIP) Resource Decision Document - FRDD
- 11.35 NASA Form 1651, Contractor Performance Summary (CPS)
- 11.36 NASA Form 1679, MidRange SEWP
- 12. Airforce Forms
 - 12.1 AF Form 858, Forecast of Requirements
- 13. Other Documentation
 - 13.1 NASA FAR Supplement
 - 13.2 Interim Procurement Operating Procedure for Commercial Credit Card Acquisition by Personnel Assigned to the Procurement Office
 - 13.3 Handbook for Contracting Officer's Technical Representatives
 - 13.4 NASA Research Grant Handbook, NHB 5800.1C, dated 12-1-93
 - 13.5 Operating Procedure for Commercial Credit Card Acquisition by Personnel not assigned to the Procurement Office
 - 13.6 MSFC Data Requirements Management Procedures, MSFC-PROC-1969, dated December 9, 1994
 - 13.7 Procurement Request Initiator's Guide for Small Purchases
- 14. AMS
 - 14.1 AMS Systems Manual, Ref. 3.1

14.2 AMS User Manual, Volumes 1 through 4

15. Documents Provided on MidRange Procurements

15.1 MidRange Industry Briefing Paper

15.2 MidRange Procurement Procedures, November 1, 1994

15.3 Source List/List of Offers Received

15.4 Advance Information Copy for Request for Offer _____

15.5 Technical Evaluation Worksheet (Award on Price)

15.6 Abstract of Offers - (MidRange)

15.7 Instructions and Certifications (MidRange RFOs for Sealed Offers Only)

15.8 Certificate of Current Cost or Pricing Data

15.9 Letter of Request for Pricing - Audit - Technical Evaluation Services

15.10 Minutes of Prenegotiation Meeting

15.11 Record of Negotiation for Proposed Contract - (Competitive Firm-Fixed Price Contract)

15.12 Record of Negotiation for Proposed Contract _____ (Competitive, Sole Source Procurements)

15.13 MidRange Pricing Memorandum

15.14 Selection Statement, Request for Offer _____ for Proposed Contract _____, Lowest Price

15.15 Selection Statement, Request for Offer _____ for Proposed Contract _____, Best Value

15.16 MSFC Form 4063, Route Sheet - Award Document

15.17 NASA Form 1634, Contracting Officer Technical Representative (COTR) Delegation

15.18 Determination of Finalists

15.19 Request for Offer, Cover Sheet

15.20 Request for Offer, Non Best Value, Cost-Reimbursement or Sole Source

15.21 Request for Offer, Best Value

- 15.22 Request for Offer, Sealed Offer
- 14.23 Solicitation Mat, Fixed Price Supply
- 15.24 Solicitation Mat, Fixed Price, R&D
- 15.25 Solicitation Mat, Cost Reimbursement, CR
- 15.26 Solicitation Provisions, Best Value
- 15.27 Solicitation Provisions, Non Best Value
- 15.28 Representations, Certifications, and Other Statements of Offerors or Quotes
- 15.29 MidRange, Checklist for Contract Award File Contract
- 15.30 Contract, Cover Page
- 15.31 Contract, Fixed Price, R&D
- 15.32 Contract, IDIQ
- 15.33 Contract, Cost Reimbursement, R&D
- 15.34 Contract, Repairs
- 15.35 Contract, Fixed Prices Supplies, (Bid)
- 15.36 Contract Fixed Price, FIP Suppliers
- 15.37 Contract, Cost Reimbursement, Services
- 15.38 Contract, Fixed Price, Services Construction
- 15.39 Contract, Fixed Price, Construction
- 16. Memoranda
 - 16.1 Access to Proprietary or Source Selection Information
 - 16.2 Determination and Findings, Authority to Use a _____ Contract

APPENDIX B
PROJECT SCHEDULE

NASAMSFC Automated Procurement System

ID	Task Name	Duration	Start	Finish	Aug '94	Sep '94	Oct '94	Nov '94	Dec '94	Jan '95	Feb '95	Mar '95	Apr '95
1	1 PLANNING PHASE	209d	8/1/94	6/16/95									
2	1.1 Obtain Baseline Information	20d	8/1/94	8/26/94									
3	1.2 Develop Project Plan	14d	8/15/94	9/1/94									
4	1.3 Deliver Initial Project Plan	0d	9/15/94	9/15/94									
5	1.4 Review & Approve Project Plan	10d	9/2/94	9/15/94									
6	1.5 Deliver Revised Project Plan	1d	5/3/95	5/3/95									
7	1.6 Review & Approval by NASA	1d	5/15/95	5/15/95									
8	2 INTERFACE DEFINITION PHASE	164d	10/3/94	6/15/95									
9	2.1 Define MARTS Interface Requirements	150d	10/3/94	4/25/95									
10	2.2 Define NSMS Interface Requirements	142d	10/13/94	4/25/95									
11	2.3 Define NEMS Interface Requirements	145d	10/12/94	4/27/95									
12	2.4 Define PROMIS/AMS Interface Requirements	1d	4/28/95	4/28/95									
13	2.5 Define MICS (CSC) Interface Requirements	1d	4/28/95	4/28/95									
14	2.6 Prepare Interface Definition Documentation	12d	4/28/95	5/15/95									
15	2.7 Deliver Interface Definition Documentation	1d	5/15/95	5/15/95									
16	3 DEMONSTRATION PHASE	163d	11/4/94	6/6/95									
17	3.1 Develop Outline Architectural Plans	22d	11/4/94	12/4/94									
18	3.2 Deliver Outline Architectural Plans	0d	12/5/94	12/5/94									
19	3.3 Develop Detailed Architectural Plans	12d	5/1/95	5/16/95									
20	3.4 Deliver Detailed Architectural Plans	0d	5/15/95	5/15/95									
21	3.5 Demonstration of PC Solution	2d	12/5/94	12/6/94									
22	3.6 Demonstration of Macintosh Solution	0d	6/5/95	6/5/95									

Task  Progress  Milestone 	Summary  Rolled Up Task  Rolled Up Milestone 	Rolled Up Progress 

Project: NASAMSFC Automated Proc.
Date: 5/3/95

NASAMSFCAutomated Procurement System

ID	Task Name	Duration	Start	Finish	Aug '94	Sep '94	Oct '94	Nov '94	Dec '94	Jan '95	Feb '95	Mar '95	Apr '95
23	4 CONFIGURATION MANAGEMENT PLAN PHASE	11d	6/1/95	6/16/95									
24	4.1 Develop Configuration Management Plan	11d	5/1/95	5/15/95									
25	4.2 Obtain Committee Approval	1d	5/15/95	5/15/95									
26	6 ACCEPTANCE TEST PLAN PHASE	136d	11/9/94	6/16/95									
27	5.1 Develop Test & Acceptance Plan	136d	11/9/94	5/15/95									
28	5.2 Deliver Updated Test & Acceptance Plan	0d	12/5/94	12/5/94									
29	5.3 Present PAI's Plan to Meet Performance	106d	12/5/94	4/28/95									
30	5.4 Revised Test & Acceptance Plan	1d	5/15/95	5/15/95									
31	6 VALIDATION PHASE	337d	9/9/94	12/18/95									
32	6.1 Analyze Requirements/System Functions	63d	9/9/94	12/4/94									
33	6.2 Deliver Update & Requirements Specification	1d	12/5/94	12/5/94									
34	6.3 Review & Approve Requirements Specification	273d	12/6/94	12/18/95									
35	6.4 Analyze Implementation Approach	36d	10/17/94	12/4/94									
36	6.5 Deliver Initial Design Document	1d	12/5/94	12/5/94									
37	6.6 Critical Design Review	1d	12/6/94	12/6/94									
38	6.7 Demonstration and Presentation on the PC	2d	12/5/94	12/6/94									
39	6.8 Collect Additional Revised Requirements	52d	2/15/95	4/26/95									
40	6.9 Prepare Updated Design Document	13d	4/26/95	5/14/95									
41	6.10 Deliver Updated Design Document	1d	5/15/95	5/15/95									
42	6.11 Review and Approval	11d	5/16/95	5/30/95									
43	6.12 Demonstration and Presentation on the MAC	0d	6/5/95	6/5/95									
44	7 PROTOTYPE PHASE	34d	5/15/95	6/30/95									

Task

Progress

Milestone

Summary

Rolled Up Task

Rolled Up Milestone

Rolled Up Progress

Project: NASAMSFCAutomated Proc.
Date: 5/3/95

NASAM/MSFC Automated Procurement System

ID	Task Name	Duration	Start	Finish	Aug '94	Sep '94	Oct '94	Nov '94	Dec '94	Jan '96	Feb '96	Mar '96	Apr '96
46	7.1 Install Prototype System	4d	5/15/95	5/18/95									
46	7.2 Deliver Fundamental Prototype System	0d	5/30/95	5/30/95									
47	7.3 Deliver Fundamental Prototype System	1d	6/15/95	6/15/95									
48	7.4 Deliver Fundamental Prototype System	0d	6/30/95	6/30/95									
49	8 Customization Phase	186d	10/19/94	6/30/95									
50	8.1 Data Element Definition	162d	10/19/94	5/30/95									
51	8.2 Forms Development	60d	3/8/95	5/30/95									
52	8.3 Document Development	60d	3/8/95	5/30/95									
53	8.4 System Configuration	22d	6/1/95	6/30/95									
54	8.5 Deliver Updated Configuration Management Plan	1d	6/30/95	6/30/95									
55	9 ENHANCEMENT PHASE	46d	6/1/96	6/30/96									
56	9.1 Develop MSFC Specific Components	34d	5/1/95	6/15/95									
57	9.2 Unit Testing	12d	6/15/95	6/30/95									
58	10 INTERFACE IMPLEMENTATION PHASE	90d	6/1/96	8/31/96									
59	10.1 Develop MARTS Interface	30d	5/1/95	6/9/95									
60	10.2 Test MARTS Interface	10d	6/12/95	6/23/95									
61	10.3 Develop NSMS Interface	30d	5/19/95	6/29/95									
62	10.4 Test NSMS Interface	10d	6/20/95	7/3/95									
63	10.5 Develop NEMS Interface	30d	6/5/95	7/14/95									
64	10.6 Test NEMS Interface	10d	7/17/95	7/28/95									
65	10.7 Develop Promis Interfaces	30d	6/19/95	7/28/95									
66	10.8 Test Promis Interfaces	10d	7/28/95	8/10/95									

Task

Progress

Milestone

Summary

Rolled Up Task

Rolled Up Milestone

Rolled Up Progress

Project: NASAM/MSFC Automated Procl.
Date: 5/3/95

NASAMSFC Automated Procurement System

ID	Task Name	Duration	Start	Finish	Aug '94	Sep '94	Oct '94	Nov '94	Dec '94	Jan '95	Feb '95	Mar '95	Apr '95
67	10.9 Develop AMS Interface	30d	6/30/95	8/10/95									
68	10.10 Test AMS Interface	10d	8/1/95	8/23/95									
69	10.11 Develop MICS Interface	30d	7/10/95	8/18/95									
70	10.12 Test MICS Interface	10d	8/19/95	8/31/95									
71	11 DATA CONVERSION PHASE	43d	6/1/96	7/31/96									
72	11.1 Define Conversion Requirements	20d	6/1/95	6/28/95									
73	11.2 Develop Conversion Programs	30d	6/1/95	7/12/95									
74	11.3 Test Conversion Programs	14d	7/12/95	7/31/95									
75	12 DOCUMENTATION PHASE	266d	9/1/94	8/31/96									
76	12.1 Develop On-Line HELP	219d	11/3/94	8/31/95									
77	12.2 Develop User Documentation	219d	11/2/94	8/30/95									
78	12.3 Develop Technical Specifications	218d	11/3/94	8/30/95									
79	12.4 Develop Training Manuals	250d	9/1/94	8/11/95									
80	12.5 Develop System Documentation	85d	5/5/95	8/30/95									
81	13 SYSTEM TESTING PHASE	63d	6/1/96	8/14/96									
82	13.1 Review Test & Acceptance Plan	10d	6/1/95	6/14/95									
83	13.2 Deliver Test & Acceptance Plan	0d	6/15/95	6/15/95									
84	13.3 Integration Testing PC-WINDOWS	15d	6/15/95	7/5/95									
85	13.4 Integration Testing MAC	14d	6/22/95	7/11/95									
86	13.5 Final Integration Test Multi-Platform	5d	7/17/95	7/21/95									
87	13.6 Test Readiness Review	5d	7/24/95	7/28/95									
88	13.7 TRR Complete	1d	7/31/95	7/31/95									

Project: NASAMSFC Automated Proc. Date: 5/3/95	Task	Summary	Rolled Up Progress
	Progress	Rolled Up Task	
	Milestone	Rolled Up Milestone	

NASAMSFC Automated Procurement System

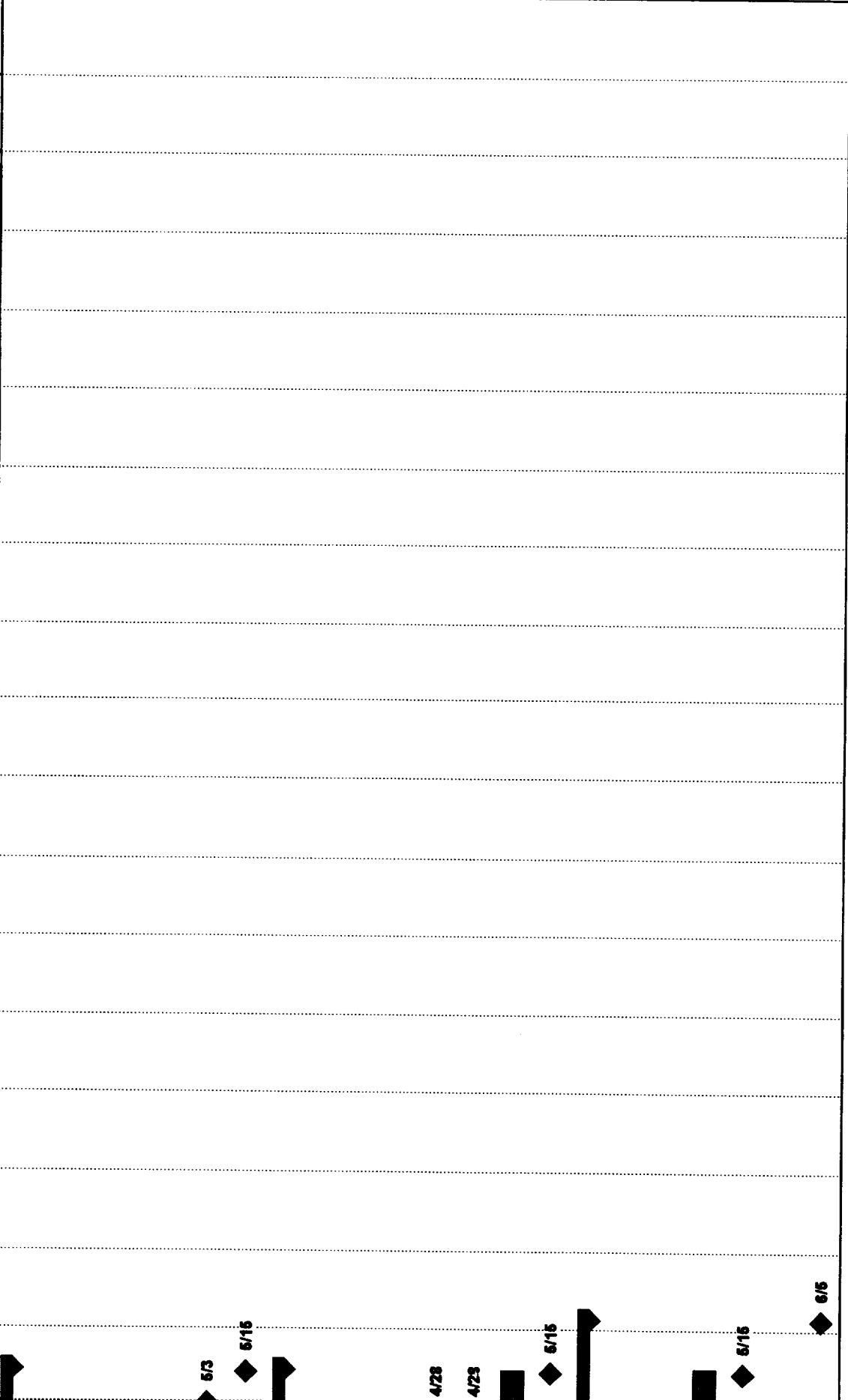
ID	Task Name	Duration	Start	Finish	Aug '94	Sep '94	Oct '94	Nov '94	Dec '94	Jan '95	Feb '95	Mar '95	Apr '95
89	13.8 Government Test & Acceptance	10d	8/1/95	8/14/95									
90	13.9 Operation Readiness Review	1d	8/14/95	8/14/95									
91	14 IMPLEMENTATION PHASE	39d	6/1/96	7/25/96									
92	14.1 Develop System Implementation Plan	20d	6/1/95	6/28/95									
93	14.2 Deliver System Implementation Plan	0d	7/10/95	7/10/95									
94	14.3 Install Production Software	12d	7/10/95	7/25/95									
95	15 TRAINING PHASE	66d	6/1/96	8/30/96									
96	15.1 Develop Training Plan	20d	6/1/95	6/28/95									
97	15.2 Deliver Training Plan	1d	7/3/95	7/3/95									
98	15.3 Deliver Training Manuals	1d	8/17/95	8/17/95									
99	15.4 Conduct Training	10d	8/18/95	8/30/95									
100	16 MAINTENANCE PHASE	1046d	10/1/96	9/30/99									
101	16.1 Maintenance Year One	152d	10/1/95	4/29/96									
102	16.2 Maintenance Year Two	261d	10/1/96	9/30/97									
103	16.3 Maintenance Year Three	261d	10/1/97	9/30/98									
104	16.4 Maintenance Year Four	261d	10/1/98	9/30/99									

Task	Summary	Rolled Up Progress
Progress	Rolled Up Task	
Milestone	Rolled Up Milestone	

Project: NASAMSFC Automated Proci
Date: 5/3/95

NASAMSFC Automated Procurement System

May '96	Jun '96	Jul '96	Aug '96	Sep '96	Oct '96	Nov '96	Dec '96	Jan '96	Feb '96	Mar '96	Apr '96	May '96	Jun '96	Jul '96	Aug '96	Sep '96	Oct '96
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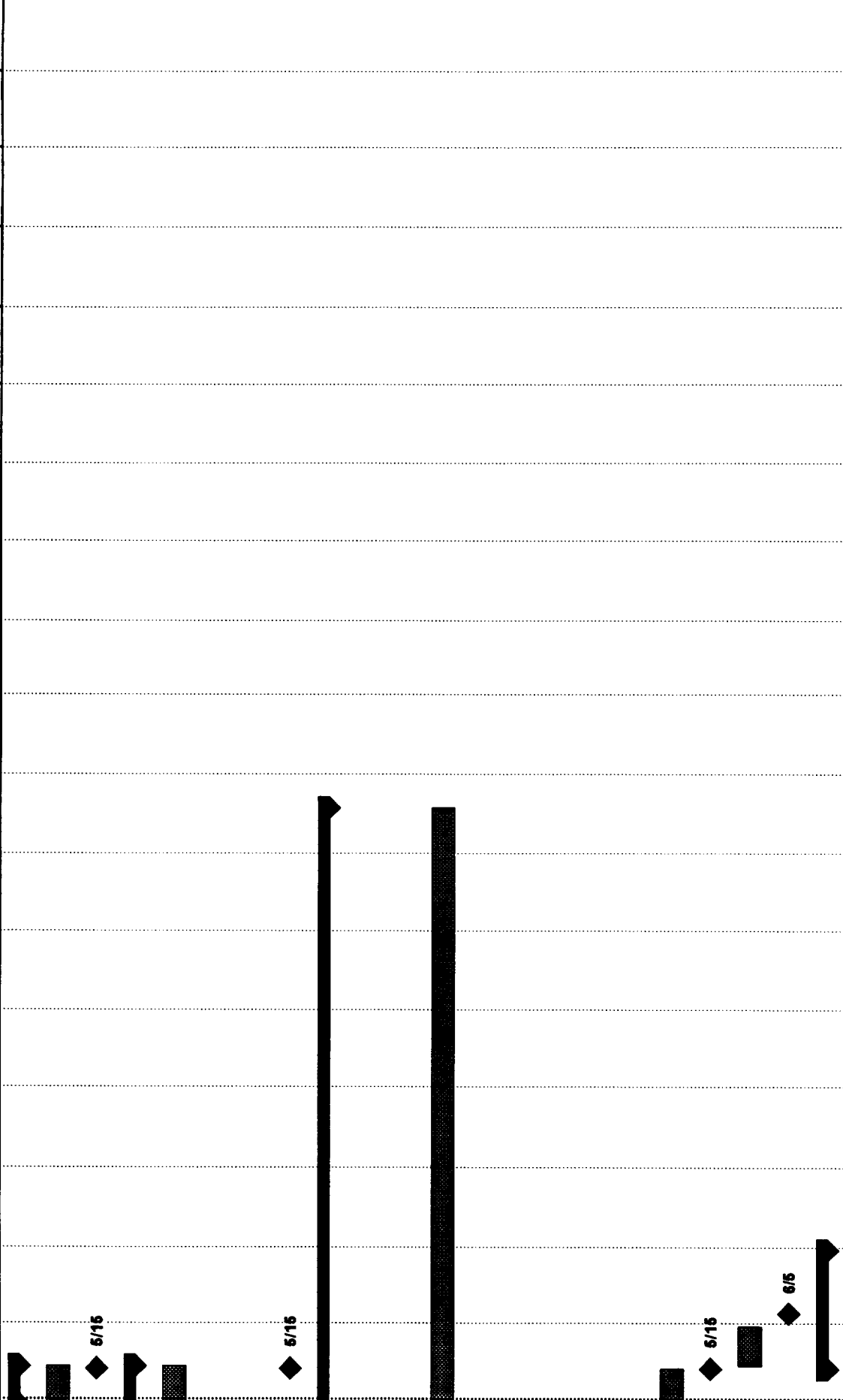


Task	Summary	Rolled Up Progress
Task	Summary	Rolled Up Progress
Progress	Rolled Up Task	
Milestone	Rolled Up Milestone	

Project: NASAMSFC Automated Proc.
Date: 5/3/96

NASAM/MSFC Automated Procurement System

May '96	Jun '96	Jul '96	Aug '96	Sep '96	Oct '96	Nov '96	Dec '96	Jan '96	Feb '96	Mar '96	Apr '96	May '96	Jun '96	Jul '96	Aug '96	Sep '96	Oct '96
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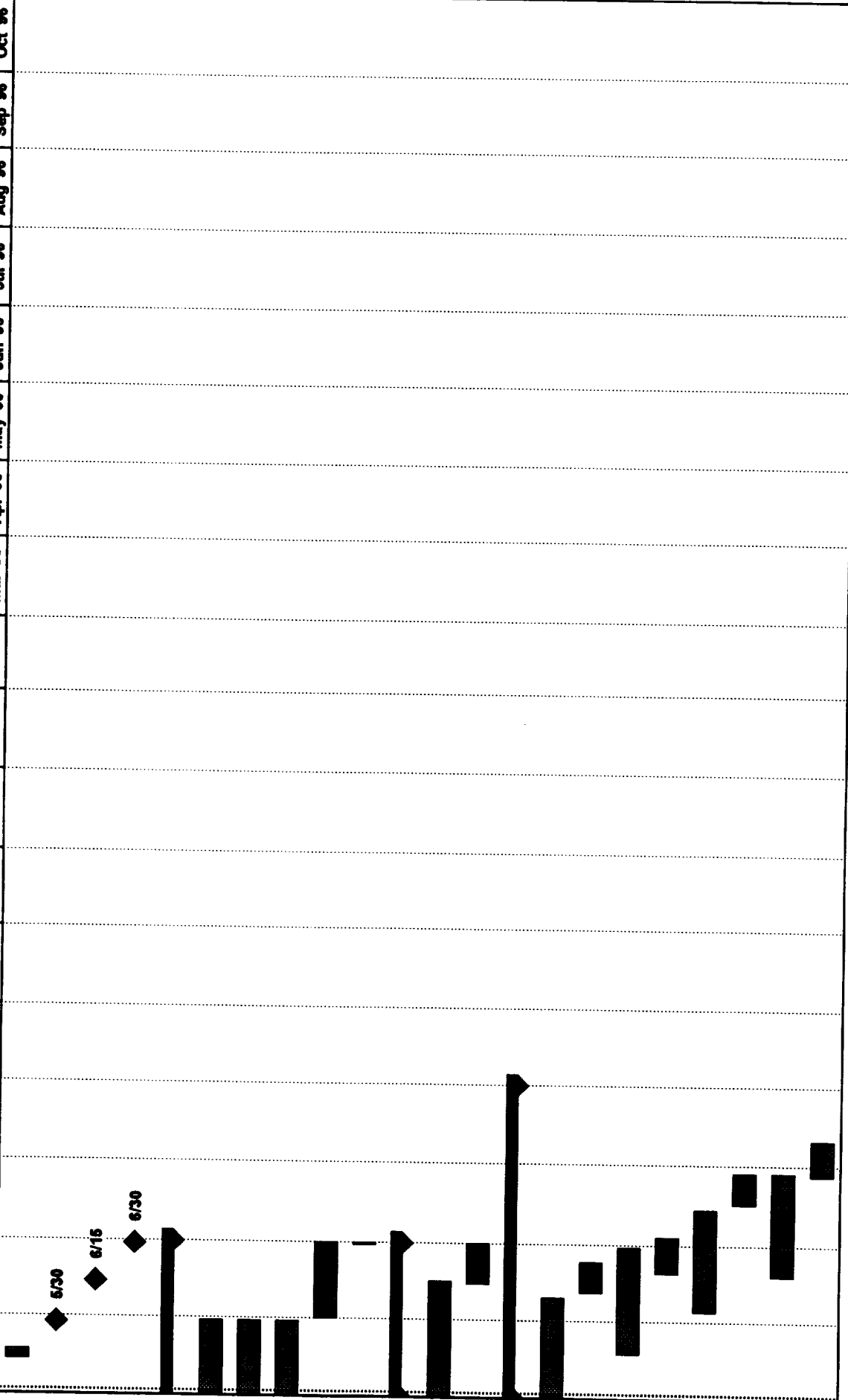


Task	Summary	Rolled Up Progress
Progress	Rolled Up Task	
Milestone	Rolled Up Milestone	

Project: NASAM/MSFC Automated Proci
Date: 5/3/95

NASAMSFC Automated Procurement System

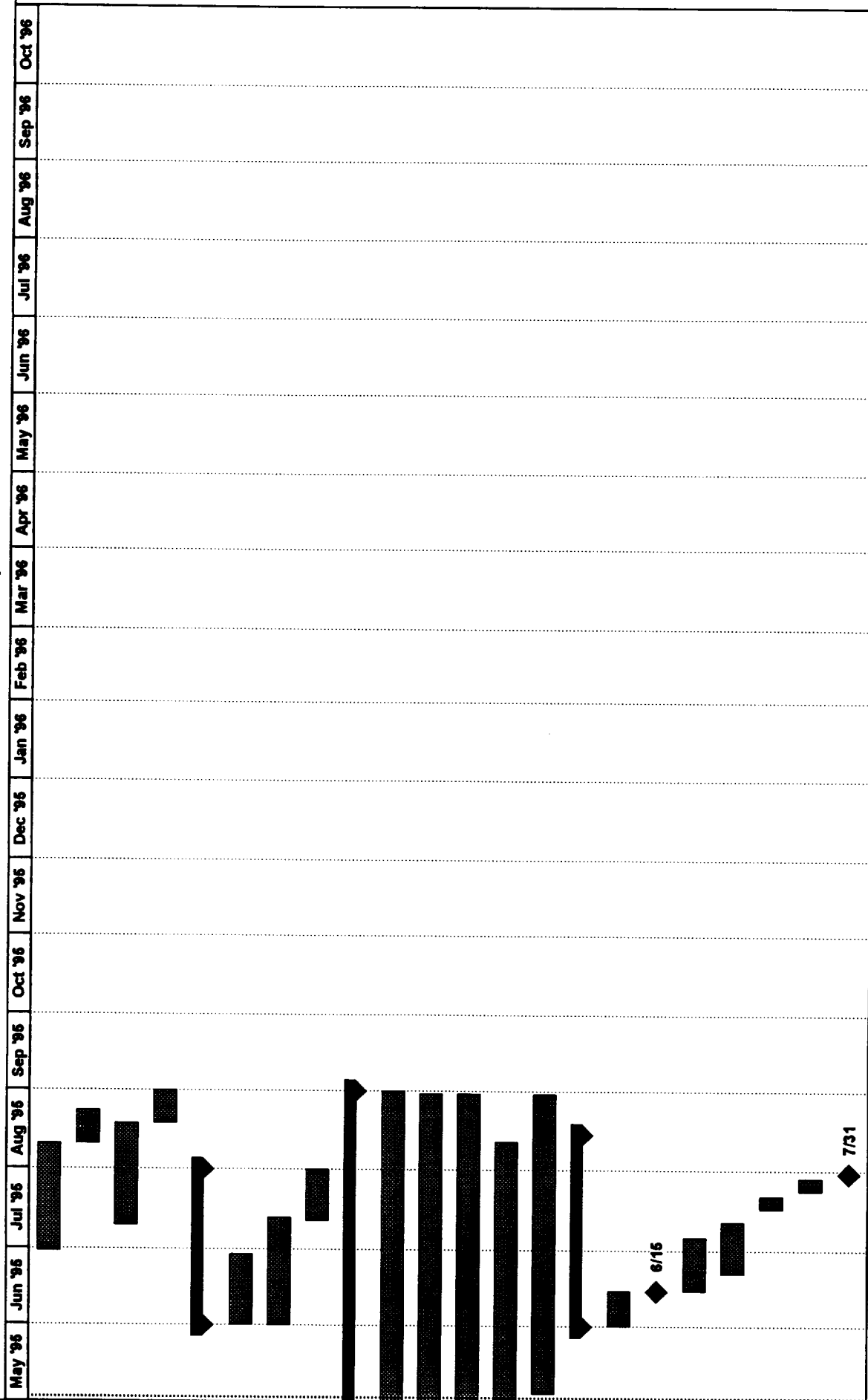
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Task	Summary	Rolled Up Progress
Progress	Rolled Up Task	
Milestone	Rolled Up Milestone	

Project: NASAMSFC Automated Procl
Date: 5/3/95

NASA/MSFC Automated Procurement System



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Task	Progress	Milestone
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NASA/MSFC Automated Procurement System

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Task		Summary	Rolled Up Progress
Progress		Rolled Up Task	
Milestone		Rolled Up Milestone	

	Nov '96	Dec '96	Jan '97	Feb '97	Mar '97	Apr '97	May '97	Jun '97	Jul '97	Aug '97	Sep '97	Oct '97	Nov '97	Dec '97	Jan '98	Feb '98	Mar '98	Apr '98
1996	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1997	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5
1998	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

Task	Summary	Rolled Up Progress
Progress	Rolled Up Task	
Milestone	Rolled Up Milestone	

NASA/MSFC Automated Procurement System

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Task	Progress	Milestone	Summary	Rolled Up Task	Rolled Up Milestone	Rolled Up Progress

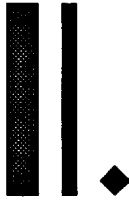
Project: NASA/MSFC Automated Procl.
Date: 5/3/95

NASAMSEC Automated Procurement System

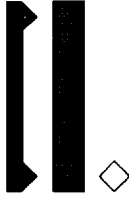
Nov '96	Dec '96	Jan '97	Feb '97	Mar '97	Apr '97	May '97	Jun '97	Jul '97	Aug '97	Sep '97	Oct '97	Nov '97	Dec '97	Jan '98	Feb '98	Mar '98	Apr '98																		

Project: NASAMSEC Automated Proc.
Date: 5/3/95

Task
Progress
Milestone



Summary
Rolled Up Task
Rolled Up Milestone










Rolled Up Progress



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	Task	Progress	Milestone	Summary	Rolled Up Task	Rolled Up Milestone	Rolled Up Progress

May '98	Jun '98	Jul '98	Aug '98	Sep '98	Oct '98	Nov '98	Dec '98	Jan '99	Feb '99	Mar '99	Apr '99	May '99	Jun '99	Jul '99	Aug '99	Sep '99	Oct '99
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Task	Progress	Milestone	Summary	Rolled Up Task	Rolled Up Progress
					
					

NASAMSFC Automated Procurement System																																			
May '98	Jun '98	Jul '98	Aug '98	Sep '98	Oct '98	Nov '98	Dec '98	Jan '99	Feb '99	Mar '99	Apr '99	May '99	Jun '99	Jul '99	Aug '99	Sep '99	Oct '99																		

Task

Progress

Milestone

Summary

Rolled Up Task

Rolled Up Milestone

Rolled Up Progress

Project: NASAMSFC Automated Procl

Date: 5/3/95

Page 18

Task	Progress	Milestone
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Summary

Summary



Rolled Up Progress

	May '98	Jun '98	Jul '98	Aug '98	Sep '98	Oct '98	Nov '98	Dec '98	Jan '99	Feb '99	Mar '99	Apr '99	May '99	Jun '99	Jul '99	Aug '99	Sep '99	Oct '99
1998	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1999	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5

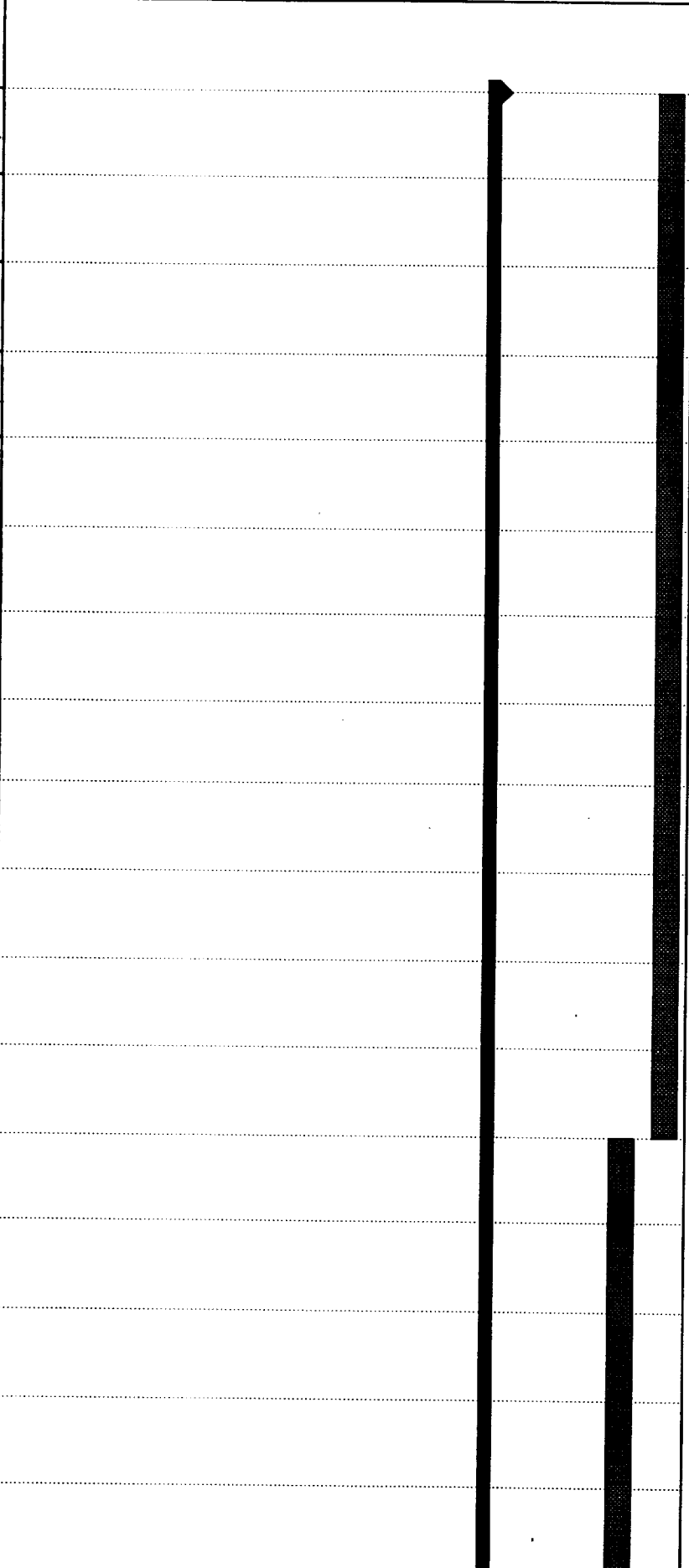
	May '98	Jun '98	Jul '98	Aug '98	Sep '98	Oct '98	Nov '98	Dec '98	Jan '99	Feb '99	Mar '99	Apr '99	May '99	Jun '99	Jul '99	Aug '99	Sep '99	Oct '99
1998	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1999	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5

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Task	Progress	Milestone	Summary	Rolled Up Task	Rolled Up Milestone	Rolled Up Progress

NASAM/SFC Automated Procurement System

May '98	Jun '98	Jul '98	Aug '98	Sep '98	Oct '98	Nov '98	Dec '98	Jan '99	Feb '99	Mar '99	Apr '99	May '99	Jun '99	Jul '99	Aug '99	Sep '99	Oct '99
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Project: NASAM/SFC Automated Proct
Date: 5/3/95

Task		Summary		Rolled Up Progress	
Progress		Rolled Up Task			
Milestone		Rolled Up Milestone			

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and the completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
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4. TITLE AND SUBTITLE Automated Procurement System (APS) Final Project Plan (DS-03)			5. FUNDING NUMBERS NAS8-39897	
6. AUTHOR(S) Diane R. Murphy, President				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Procurement Automation Institute (PAI) 2775 So. Quincy Street, Suite 450 Arlington, VA 22206			8. PERFORMING ORGANIZATION REPORT NUMBER NASA-04	
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11. SUPPLEMENTARY NOTES				
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13. ABSTRACT (Maximum 200 words) The Project Plan is the governing document for the implementation of the Automated Procurement System (APS). It includes a description of the proposed system, describes the work to be done, establishes a schedule of deliverables, and discusses the major standards and procedures to be followed.				
14. SUBJECT TERMS Automated Procurement System Final Project Plan (DS-03)			15. NUMBER OF PAGES 81	
			16. PRICE CODE	
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